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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/174,002	10/16/1998	ERIK H. BOCH	95617-USA	5020

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JIM ZEGER
801 N. PITT STREET, #108
ALEXANDRIA, VA 22204

EXAMINER

NGUYEN, PHUONGCHAU BA

ART UNIT

PAPER NUMBER

2665

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Please find below and/or attached an Office communication concerning this application or proceeding.

PRG

Office Action Summary	Application No. 09/174,002	Applicant(s) BOCH ET AL.	
	Examiner Phuongchau Ba Nguyen	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08-14-2001 CPA.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- | | |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 20) <input type="checkbox"/> Other: _____ |

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Claim Rejections – 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 26, 34 and 42 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The new matter added to claims 26, 34 and 42 is "DIRECT" at lines 3 & 7 (claim 26), 3 & 6 (claim 34), and 4 & 8 (claim 42).

Claim Rejections – 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an

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international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 45 and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Gilbert (6,016,311).

Regarding claim 45:

Gilbert discloses a scaleable, broadband wireless system (100, fig.4) for providing radio access (wireless connectivity) to a metropolitan area (102) comprising:

a plurality of overlapping cell areas (102), each cell area having a base station (106, 114) and a plurality of fixed user sites (112) having network

interface units (NIUs-146, figs.7-8; col.11, lines 39-47) within each cell area,

ATM radio interface cards (ARICs, i.e., 124, 126, 128, 130, 132, 134 in fig.6; col.10, line 64-col.11, line 2; and 118, 120, 122 in fig.5) in each base station for implementing wireless, bi-directional communication between said base stations and user sites,

an ATM backplane (Hub in fig.5; Gilbert) at one of said base stations constituted by a plurality of ARICs (i.e., 118, 120, 122 in fig.5), each base station ARICs (i.e., 124; col.11, lines 4-5) being provided with implementing protocols for bi-directionally linking with the ATM backplane (Hub), said ARICs (i.e., 124, 126, 128, 130, 132) being adapted to operate, on a multiple access protocol so as to provide point-to-point radio access between base stations over intercell links (the connectivity link between two cells site 104 in fig.4), and whereby the system can be scaled by adding ARICs (i.e., 118, 120, 122) to said ATM backplane (Hub) as required to meet demand.

Regarding claim 47: the ARICs at the base station is operated under TDMA protocol {col.6, lines 33-34; col.9, lines 36-42; Gilbert}.

Claim Rejections – 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim(s) 26–28, 30, 34–35, 39, 42–43 is/are rejected under 35

U.S.C. 103(a) as being unpatentable over Gilbert (6,016,311).

Gilbert discloses in figure 4 that the wireless communication system 100 comprises a plurality of cells 102. Each cell 102 contains an associated cell site 104 which primarily includes a base station 106 and an active antenna array 108 [a first and second of one or more interface radio cards as claimed]. Each cell 102 within the wireless communication system 100 provides wireless connectivity between the cell's base station 106 and a plurality of customer premises equipment (CPE) 110 located at fixed customer sites 112 [NIUs as claimed] throughout the coverage area of the cell 102. The radio

communication within a cell 102 is preferably bi-directional in nature. {col.9, 57-col.10, 34}

Gilbert also discloses that one of the base stations is controlled by a network management 122 (network manager as claimed).{col.10,52-56}

In addition, Gilbert further discloses that in cellular communication systems, geographic areas or regions are typically divided into cells that are theoretically hexagonally shaped. The size of a cell is typically defined by the transmitting coverage of a base station which is usually centered within the cell it serves. For example, the average cell radius of the cells shown in FIG. 4 is typically between 2.5 and three kilometers.{col.9, 43-49}

Gilbert does not explicitly disclose an interface system for providing a point to point inter-cell radio link for communicating with a base station in a neighboring cell.

Gilbert further discloses in figure 4 that the two base stations 106 are connected by a wired cable.

To implement the radio inter-cell link to the wired/fiber-optical/coaxial cable would have been highly desirable and obvious to one with ordinary skill in

the art. The motivation/suggestion for doing so is to reduce the highly cost of setting up a connecting cables between a two or more base stations.

Although Gilbert does not explicitly disclose the multi-services switch at each of base stations, but since the base station comprises an array antenna (which is a plurality of antennas), thus, the switch is inherent in the array antenna to control the active of the array antenna at each of base stations.

7. Claim(s) 31 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al (6,016,311) as applied to claims 30, 35 above, and further in view of Smith (5,432,780).

Gilbert does not disclose that each of said first one or more interface cards and each of said second one or more interface cards communicates with said sectored antenna via one or more combiners.

Smith discloses a five channel combiners 282, representative of the combiner 455 or 475 of figures 4A & 4B, connected to antenna sector X {see fig. 4C}.

To implement the combiner in Smith system to Gilbert's base station would have been obvious to one with ordinary skill in the art. The motivation/suggestion for doing so is to carry out diversity combining for the signals and reduce the disadvantages caused by a fading signal.

8. Claim(s) 29 & 36-37 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert (6,016,311) as applied to claims 30, 35 above, and further in view of Pasternak (5,936,949).

Gilbert does not disclose that the cellular wireless network is connected to an asynchronous transfer mode network (ATM).

Pasternak further discloses that a base station 205 is connected to the service provider's backbone network (i.e., ATM network) {see col.5, 58-60 and figure 2}.

To include the feature of connecting the cellular wireless network to ATM network would have been obvious to one with ordinary skill in the art. The motivation/suggestion for doing so is to provide an efficient point-to-

multipoint microwave ATM network including a base station broadcasting a continuous transmission with a sector antenna {see abstract, lines 1-4}.

9. Claim(s) 32, 40 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert (6,016,311) as applied to claims 30, 35 above, and further in view of Jaisingh (6,009,096).

Gilbert does not disclose that radio inter-cell link is in a ring configuration.

Jaisingh discloses a sonet ring 208 [ring configuration as claimed] in figure 2A for joining together a plurality of access nodes 204-1, 204-2...204-5 {see figure 2A}

To implement the sonet ring 208 in Jaisingh system to Gilbert system would have been obvious to one with ordinary skill in the art. The motivation/suggestion for doing so is to help isolate the broken ring/connection between nodes by re-creating a new connection, thus give the ring network great flexibility, reliability, and ease of configuration and maintenance.

10. Claim(s) 33, 41 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert (6,016,311) as applied to claims 30, 35 above, and further in view of Acompora (6,049,593).

Gilbert does not disclose that radio inter-cell link is in a mesh configuration.

Acompora discloses a mesh network 100 in figure 2.

To implement the mesh network in Acompora system to Gilbert system would have been obvious to one with ordinary skill in the art. The motivation/suggestion for doing so is to provide efficient alternative transmission link of high quality incase the primary path between two sites (base stations) were congested or in a state of failure.

11. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert (6,016,311) as applied to claim 45 above, and further in view of Uddenfeldt (5,793,757).

Gilbert does not disclose the claimed features.

However, in the same field of endeavor, Uddenfeldt discloses a base station (TDMA/FDMA base station-200, fig.1B; Uddenfeldt) thus the base station ARICs operate on frequency division multiple access (FDMA) protocol. Therefore, it would have been obvious to a skilled artisan to apply Uddenfeldt's teaching to Gilbert's teaching and the motivation being to provide dual mode base stations which support both FDMA and TDMA of a GSM standard in mobile communication for improving signal quality.

12. Claims 48, 38, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert (6,016,311) as applied to claim 45 above, and further in view of Vary (IEEE 1989, Implementation aspects of the Pan European Digital Mobile Radio System).

Gilbert does not explicitly disclose the claimed features.

However, in the same field of endeavor, Vary discloses that one of said base stations includes said ATM backplane and a network manager (122; fig.5) for configuring the operating frequencies, establishing modulation rate and establishing a selected forward error correction (FEC) value and setting the

transmit and power levels for the users thereof {Vary, pages 4-17 to 4-21, sections 2-4.3}. Therefore, it would have been obvious to a skilled artisan to apply Vary's teaching to Gilbert's teaching and the motivation being to improve transmission quality, secure speech transmission (by encryption), frequency economy, modularity of the radio network and cost reduction {Vary, page 4-21, section 5}.

Response to Arguments

13. Applicant's arguments filed 1-24-2001 have been fully considered but they are not persuasive.

A/. Applicants argued in paragraph 1 of page 3 of the remarks that "the second and third paragraph of page 5 of the present application clearly describe such radio interface and the components 106 and 108 of Gilbert are NOT radio interface cards.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the description of radio interface cards in page 5 at

the second and third paragraph of the original disclosure) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

B/. Applicants further argued in paragraph 4 of page 3 of the remarks that “the communication link 116 is a non-radio frequency” which is in contrast to the radio-link as defined in the claims.

In reply, applicant is directed to paragraphs 2–5 in page 3 of the previous rejection that “to implement the radio (wireless) inter-cell link to the wired/fiber-optical/coaxial cable (wired link) would have been obvious to a skilled artisan because for doing so would reduce the highly cost of setting up a connecting cables between a two or more base stations. [Orthopedic Equipment Co. v. All Orthopedic Appliances, 217 USPQ 2181 (Fed. Cir. 1983); Indiana General Corp. v. Krystinel Corp., 164 USPQ 321 (2d Cir. 1970); Del Mar Laboratory v. United States, 186 USPQ 42 (Trail Div. Ct. Cl. 1975); See also,

Environmental Designs, Ltd., v. Union Oil Co. of Calif., 218 USPQ 865 (CAFC 1983); Jacobson Bros., Inc. v. U.S., 185 USPQ 168 (Ct. Cl. 1978).

C/. Applicants also argued in the bridging paragraph of pages 3–4 that “at page 5, lines 17–20, the radio interfaces cards are installed in an ATM multi-services switch at the base station.

In response, ATM multi-services switch at the base station does not have any function to be distinguish from the switch as disclosed as inherent feature in the array antenna to control the activity of the array antenna at each of the base station in Gilbert's system.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchau Ba Nguyen whose telephone number is 703–305–0093. The examiner can normally be reached on Monday–Friday from 10:00 a.m. to 3:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 703–308–6602. The fax

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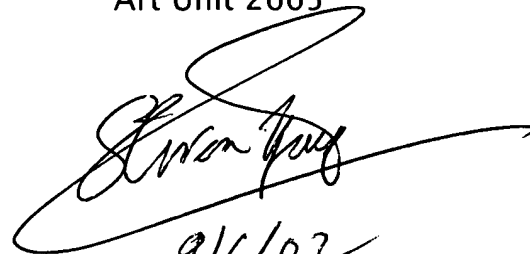
phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.



Phuongchau Ba Nguyen
Examiner
Art Unit 2665

September 6, 2002


9/6/02